National Aeronautics and Space Administration
Goddard Space Flight Center

Inside Wallops

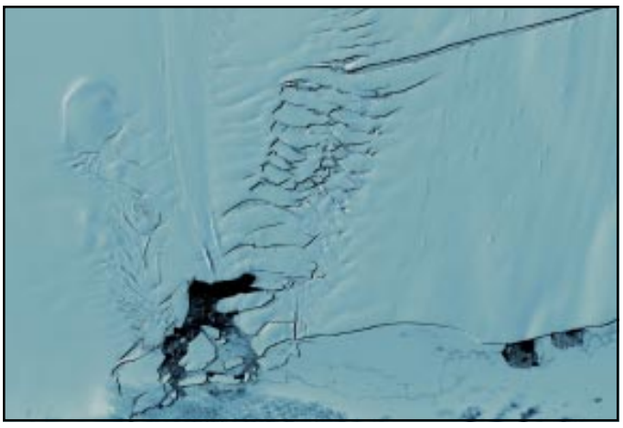
Wallops Flight Facility, Wallops Island, Virginia | Volume XX-01 | Number: 10 | April 2, 2001

NASA Image Reveals Giant Crack in Antarctic Ice

There appears to be a new crack in the Antarctic's icy armor. The massive iceberg-to-be was captured by a NASA satellite that's also tracing hidden continental features that shape the future of the world's largest ice sheets.

Landsat 7, a cooperative mission between NASA and the United States Geological Survey, Reston, VA, has completed its second annual continent-wide mapping of Antarctica.

With its ability to see features as small as 50 feet across, Landsat 7 provides the most detailed observations available of the remote continent, many parts of which have never been mapped at this resolution before.



NASA image of the crack on Pine Island glacier

"This multi-year archive of Landsat 7 images is an invaluable investment in research on Antarctica," says glaciologist Robert Bindschadler of NASA's Goddard Space Flight Center, a member of the Landsat 7 science team. "We only have one chance to capture today's changes on this dynamic continent, and with this targeted mapping strategy, we're committed to doing that." NASA plans to conduct annual Antarctic surveys.

On January 16, Bindschadle, noticed a striking feature on the Pine Island Glacier: a thin crack more than 15 miles long, stretching more than two-thirds of the way across the glacier. There was no crack in a previous image 10 months earlier.

To get a fix on when the fracture had formed and how fast it was growing, Bindschadler contacted colleagues working with other earth-observing sensors — two instruments onboard NASA's Terra satellite, the Canadian Space Agency's Radarsat, and the European Space Agency's radar imager. By comparing observations from different dates, the researchers were able to estimate the growth rate of the crack and when it had formed.

"Most of this crack formed very rapidly, in less than five weeks," says Bindschadler. "Right now it is growing much more slowly, at about 40 feet a day. My prediction is that the crack will result in the calving of a major iceberg in probably less than 18 months."

Landsat 7 was launched by NASA in April 1999 and began routine scientific observations in June 1999.

Images are archived, processed, and distributed by the U.S. Geological Survey, which is also responsible for day-to-day operations of the satellite.

Landsat 7 passes over the continent 16 times a day in its nearly pole-to-pole orbit, taking an average of 300 images each week during the Antarctic summer (November to February) when the surface is best illuminated with sunlight.

Images taken this year promise to reveal a wealth of new surface features due to a change in the spacecraft's observing schedule.

In previous years, Landsat took images of the surface as it approached the pole, but this year images were taken after the spacecraft passed by the pole. The new viewing angle changed the patterns of shadows on the uniform, white surface, exposing subtle differences in surface topography.

When the two years of Antarctic images taken at different sunlit angles are combined, researchers will not only have a view of the ice surface and will also be able to infer the hidden topography of the continental bed below. Features visible on the ice are shaped by the contours and roughness of the underlying surface as the ice slowly moves across it.

This Landsat 7 project is part of NASA's Earth Science Enterprise, an interdisciplinary research program dedicated to improving our understanding of the Earth System and how it is changing due to both natural and human-induced processes.

Message From the Administrator

Progress on Our Safety Goals

Two years ago, I asked everyone to become as passionate about safety as I am. No activities at NASA are important enough to compromise your safety or the safety of the public. Your heightened awareness in recognizing and correcting hazards and unsafe behaviors that lead to mishaps is proving effective. Workplace injuries have dropped substantially. NASA is considered a model for others who wish to avoid such preventable incidents. Well done!

In addition to fewer workplace injuries, our progress is reflected in the results of the Safety Performance Evaluation Profile (PEP) survey. Managers' and employees' occupational safety survey profiles provide evidence that our culture is changing for the better.

Soon, some of you will be randomly selected to take the survey again. This survey is one of the few anonymous feedback systems we have for safety, and your participation is greatly appreciated. Your candid responses help create an even safer environment at NASA.

Although we have come a long way, people are still getting hurt. I am serious about our ambitious goal of zero injuries in the workplace. Much too often, those involved in mishaps either knew or suspected something was not quite right.

Trust your instincts and your experience. It usually does not take much to check out a hunch or obtain a clarification on a procedure. Ask questions. Get answers. The absolute worst thing would be that a future mishap investigation found that people suspected the problem, but, for whatever reason, remained silent.

I value the attention you have given to your personal safety and to the safety of the mission. Keep up the good work because mission success starts with safety.

Daniel S. Goldin
NASA Administrator

Wallops Shorts.....

Airport Manager Appointed

Edward Sudendorf, Aircraft Office, within the Suborbital and Special Orbital Projects Directorate has been appointed the Wallops Airport Manager.

We would like to extend our sincere appreciation to Mike's co-workers and many friends at Wallops for all the acts of kindness extended to us.

Please continue to keep us in your thoughts and prayers.

The Family of Mike East

Earth Day Celebration

NASA Visitor Center April 21, 2001 9 a.m. to 4 p.m.

9 a.m. **Plant a flower for Earth**
1:15 p.m.
3 p.m.

10 a.m. **Marsh walk** - Learn about plants and animals living in a marsh environment. The marsh walk is guided by personnel from the Chincoteague National Wildlife Refuge.

11:15 a.m. **Phytoplankton** - Build a plankton net and discover what lives in the water. All materials provided by the Visitor Center.

1:45 p.m. **Make a biosphere** in a soda bottle. Bring a 2-liter soda bottle for this activity.

3 p.m. **Earth Jeopardy** - Bring the family and match wits with your peers in a friendly game of Earth Day Jeopardy.

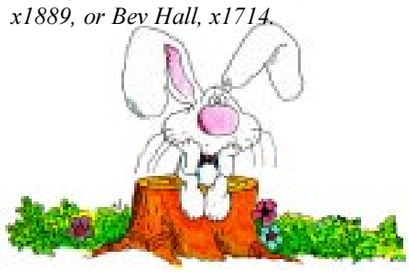
4:15 p.m. - **Bike Tour of NASA Main Base**. Learn about Wallops Flight Facility as you ride your bike on the Main Base. Sign-up at the Visitor Center Front Desk. All participants must wear helmets. The ride is 3 miles and takes about an hour. The ride will be cancelled if it is raining.

Activities that take place throughout the day include a scavenger hunt, make an Earth Day flag and a pine cone mosquito and receive special handouts while the supply lasts. Teachers can receive an Earth Science Educator Packet.

Easter Egg Hunt

10 a.m.
Saturday, April 7
Building F-3

For information contact Gerry McIntire, x1889, or Bev Hall, x1714.



Dry Cleaning and Alternations

Is the hem of your dress hanging down on one side where you ripped it out with your high-heeled shoe when you climbed into your car?

Have you started going to those WEMA-sponsored Weight Watcher meetings faithfully, and now your slacks are about to fall around your ankles?

Or did you quit Aerobics and now you find that your girth has expanded, somewhat.

Need seams taken in or let out?

Do you trip out of the building at the close of the business day, jump in your car, and speed down the highway in a mad rush to get to the dry cleaners before they close - find their door locked?

NO MORE!!!

Wallops Employee Morale Association (WEMA) is now offering dry cleaning and alteration services through Shore Cleaners, Nelsonia, Va.

Bring your lightly soiled, tired-smelling, or out-and-out dirty duds, household linens, or alteration requirements to the Wallops Exchange, Building E-2 for pickup and delivery by Shore Cleaners on Mondays, Wednesdays, and Fridays.

Call the Exchange Store, x2020, for dry cleaning and alteration rates.

Wallops Aerobics Club News

A new club year and a new six-week session that includes a Yoga class for beginners starts the first of April.

One-hour aerobics classes will be held on Monday, Wednesday and Friday evenings. All sessions will be held in the Wallops Gym, Building D-10.

The beginner Yoga class will be held at lunchtime on Fridays.

Check out the Aerobics Club web site: http:www.wff.nasa.gov/WAC/

For further information about the Yoga class, call Lisa Brittingham, x2292. For information on joining the Aerobics Club call Annette Conger, x2596.

Visitor Center Events Scheduled for April

April 7 — "Model Rocket Launch"
A model rocket launch will be held at 1 p.m. Models of various rockets will be launched. Model rocketeers are invited to bring their own rockets and launch them. The launch will be canceled if it is raining or winds exceed 18 mph.

April 8 — "Bike Tour of the NASA Main Base"

Learn about Wallops Flight Facility as you ride your bike on the NASA Main Base. Participants must bring their own bicycles, wear a helmet and sign-up at the Visitor Center. The tour starts at 3 p.m., is 3 miles long and takes approximately an hour. The tour will be cancelled if it is raining.

During the month on Saturdays and Sundays, the 10-minute puppet show, "Puppets in Space", is presented at 11 a.m. Puppet astronauts and Sam the monkey explore space flight and the space suit. An eight-minute version of the film "Astrosmiles" follows the puppet show.

On Sundays at 1 p.m. a 30-minute program on "Humans in space" is presented. The program looks at living and working in space and includes a review of the astronauts' meals and their wardrobe. The program is followed by an activity during which children have the opportunity to create their own "space helmet."

Children aged 5-10 years old can earn a "Space Ace" certificate and a lithograph during their visit by completing an activity sheet.

The Visitor Center, part of the Robert L. Krieger Education Complex, is open daily from 10 a.m. to 4 p.m., Thursday through Monday.

The Visitor Center is closed on Tuesday and Wednesday. Admission to Visitor Center Programs is free. For further information, please call (757) 824-2298.

Inside Wallops is an official publication of Goddard Space Flight Center and is published by the Wallops Office of Public Affairs, Extension 1584, in the interest of Wallops employees.

Editor — Betty Flowers
Printing — Printing Management Office

http://www.wff.nasa.gov